

Claims

1 1. Data word expansion method for expanding a first, N-digit data word in two's
2 complement representation to produce a second, (N+M)-digit data word, where N and M
3 are natural numbers greater than 0 comprising the steps of
4 putting the digits in the Nth to 1st place (4, 3) of the first data word into the
5 (N+M)th to (M+1)th place of the second data word, retaining the order of digits, and at
6 least one of the first M places of the second data word is set to the logic value "1".

1 2. Method according to Claim 1, further comprising the step of setting precisely
2 one of the first M places of the second data word to the logic value "1".

1 3. Method according to Claim 2, further comprising the step of putting the logic
2 value "0" into the Mth place of the second data word.

1 4. Method according to Claim 3, further comprising putting the logic value "1"
2 into the least significant place of the second data word, and the logic value "0" into each
3 of the subsequent places up to and including the Mth place.

1 5. Apparatus for extending a data word length from N to (N+M) digits,
2 comprising
3 a first circuit device for outputting an N-digit data word in two's complement
4 representation, the N-digit output of which is connected to the more significant places of
5 an (N+M)-bit-wide data channel, retaining the order of places, and
6 a second circuit device designed for outputting a prescribed M-digit data word
7 having at least one logic "1", the M-digit output of which is connected to the less
8 significant M places of the (N+M)-bit-wide data channel.

1 6. The apparatus of Claim 5 further comprising a third circuit device, whose
2 (N+M)-wide input is connected to the (N+M)-wide data channel.